

## CLAIMS

1. An electrode brain probe assembly,  
comprising:

- 5           a) a polymeric layer;
- b) a set of electrical contacts and  
              conductors on said polymeric layer; and
- c) said electrode brain probe assembly having  
10           a distal end, and being greater than 5 mm  
              long, less than 5 mm wide and less than  
              1 mm thick.

2. The assembly of claim 1 further being pointed  
at said distal end.

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3. The assembly of claim 1 further defining a  
through hole at said distal end, thereby permitting the  
use of a placement device to push said bio-probe into  
delicate soft tissue, such as brain tissue.

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4. The assembly of claim 1 wherein said flexible  
polymer substrate is comprised of a layer of polyether  
sulfone.

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5. The assembly of claim 1 wherein said flexible  
polymer substrate is comprised of a layer of polyimide.

6. The assembly of claim 1 wherein said  
conductive material is a metal.

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7. The assembly of claim 1 wherein said  
conductive material is a conductive polymer.

8. The assembly of claim 1 wherein said flexible polymer substrate is comprised of a layer of liquid crystal polymer.